

van Lengerich - Serial No. 09/782,320
RESPONSE
Attorney Docket No. GMI-5238 (BVL-102A)

Listing of Claims:

1-24. (Canceled)

25. (Previously presented) An encapsulated product comprising discrete, solid particles having a substantially uniform shape and a diameter of up to about 10 mm, wherein each particle comprises:

an encapsulant dispersed throughout a plasticized mass, and at least one component for controlling the rate of release of the encapsulant,

wherein said encapsulant is at least one pharmaceutical component, nutraceutical component, nutritional component, fragrance component, or biologically active component,

wherein said plasticized mass comprises at least about 40% by weight of at least one matrix material, based on the weight of the final product, and at least one plasticizer,

wherein the encapsulant and plasticized matrix material form an at least substantially homogeneous mixture, and

wherein the amount of said encapsulant is from about 1% by weight to about 85% by weight, based upon the weight of the matrix material.

26. (Withdrawn) An encapsulated product according to claim 25 wherein said plasticized matrix material comprises an at least partially gelatinized starch, which starch is not substantially dextrinized.

27. (Original) An encapsulated product according to claim 25 wherein said encapsulant is coated with a film-forming material prior to dispersion within said plasticized mass.

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28. (Original) An encapsulated product according to claim 25 wherein said particles are in the form of a tablet, or a pellet.

29. (Original) An encapsulated product according to claim 28 wherein said particles are coated with a film-forming material.

30. (Original) An encapsulated product according to claim 25 wherein said at least one release-rate controlling component is a hydrophobic component.

31. (Original) An encapsulated product according to claim 30 wherein said hydrophobic component is at least one member selected from the group consisting of fats, oils, waxes, fatty acids, emulsifiers, polyolefins, paraffin, polyvinyl acetate and derivatives thereof, and modified starches.

32. (Withdrawn) An encapsulated product according to claim 25 wherein said at least one release-rate controlling component is a high water binding capacity component.

33. (Withdrawn) An encapsulated product according to claim 32 wherein said high water binding capacity component is selected from the group consisting of gelatin, proteins, and hydrocolloids.

34. (Original) An encapsulated product according to claim 25 which has a specific density of from about 800 g/liter to about 1500 g/liter.

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35. (Previously presented) An encapsulated product according to claim 25 wherein the length-to-diameter ratio of said particles is from about 0.1 to about 10.

36. (Canceled)

37. (Original) An encapsulated product according to claim 25 wherein said particles have a substantially non-expanded, substantially non-cellular structure.

38. (Original) An encapsulated product according to claim 25 wherein said encapsulant is released in an aqueous or gastric juice environment in an amount of no more than from about 10% in about 1 hour to no less than about 90% in about 24 hours.

39. (Previously presented) An encapsulated product according to claim 25 wherein:

the amount of the matrix material is from about 60% by weight to about 95% by weight, based upon the weight of the final product, and

the amount of said at least one component used to control the rate of release of the encapsulant is from about 5% by weight to about 50% by weight, based upon the weight of the matrix material.

40. (Original) An encapsulated product according to claim 39 wherein said particles have a diameter of from about 0.5 mm to about 5 mm and a length-to-diameter ratio of about 0.5 to about 2.

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41. (Withdrawn) An encapsulated product according to claim 25 wherein said matrix material comprises a protein.

42. (Original) An encapsulated product according to claim 25 wherein said plasticized matrix comprises durum wheat or semolina.

43. (Withdrawn) An encapsulated product as claimed in claim 25 wherein said encapsulant is at least one member selected from the group consisting of: acepromazine, acetaminophen, acetohexamide, acetohydroxamic acid, acetylcholine, acetyl cysteine, acyclovir, albendazole, alclometasone dipropionate, allopurinol, alprazolam, alprostadil, amcinoides, amantadine, amdinocillin, amikacin, amiloride, aminocaproic acid, aminophylline, aminosalicylate, aminosalicylic acid, amitriptyline hydrochloride, ammonium chloride, amobarbital, amodiaquine hydrochloride, amoxapine, amoxicillin, amphetamine sulfate, amphotericin, ampicillin, amprolium, acetazolamide, acetyldigoxin, acetylsalicylic acid, anileridine, anthralin, antipyrine, antivenin, apomorphine, apraclonidine, ascorbic acid, aspirin, acromycin, atropine, amoxicillin, anipamil, azaperone, azatadine maleate, azathioprine, azithromycin, aztreonam, bacampicillin, bacitracin, baclofen, barium salts, beclomethasone dipropionate, belladonna extract, bendroflumethiazide, benoxinate hydrochloride, benzethonium chloride, benzocaine, benzonatate, benzthiazide, benztropine mesylate, betain, betamethasone, betaxolol, betanecol chloride, biotin, biperiden, bisacodyl, bismuth, botulism antitoxin, bromocriptine mesylate, bromodiphenhydramine hydrochloride, bumetanide, bupivacaine, busulfan, butabarbital sodium, butalbital, combinations of butalbital, caffeine and aspirin and codeine, beta-carotene, calcifediol, calcium carbonate, calcium citrate, calcium salts, candidin, captopril, carbachol, carbamazepine, carbenicillin

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indanyl sodium, carbidopa, carbinoxamine maleate, carboprost tromethamine, carboxymethylcellulose, carisoprodol, casanthranol, cascara, castor oil, cefaclor, cefadroxil, cefamandole nafate, cefazolin, cefixime, cefoperazone, cefotaxime, cefprozil, ceftazidime, cefuroxime axetil, cephalixin, cephradine, chlorambucil, chloramphenicol, chlordiazepoxide, chloroquine phosphate, chlormadinone acetate, chlorothiazide, chlorpheniramine maleate, chloroxylenol, chlorpromazin, chlorpropamide, chlorprothixene, chlorprothixene, chlortetracycline bisulfate, chlortetracycline hydrochloride, chlorthalidone, chlorzoxazone, cholecalciferol, cholera vaccine, chromic chloride, chymotrypsin, cimetidine, cinoxazin, cinoxate, ciprofloxacin, cisplatin, clarithromycin, clavulanate potassium, clemastine fumarate, clidinium bromide, clindamycin hydrochloride, -palmitate and -phosphate, clioquinol, clofazimine, clofibrate, clomiphene citrate, clonazepam, cinnarizine, clonidine hydrochloride, clorsulon, clotrimazole, cloxacillin sodium, cyanocobalamin, cocaine, coccidioidin, cod liver oil, codeine, colchicine, colestipol, corticotropin, cortisone acetate, cyclacillin, cyclizine hydrochloride, cyclobenzaprine hydrochloride, cyclophosphamide, cycloserine, cyclosporine, cyproheptadine hydrochloride, cysteine hydrochloride, danazol, dapsone, dehydrocholic acid, demeclocycline, desipramine, desoximetasone, desoxycorticosterone acetate, dexamethasone, dexchlorpheniramine maleate, Dexpanthenol, dextroamphetamine, dextromethorphan, diazepam, diazoxide, dibucaine, dichlorphenamide, dicloxacillin sodium, dicyclomine, dienestrol, diethylpropion hydrochlorid, diethylstilbestrol, diflunisal, digitalis, dicoumarol, digitoxin, digoxin, dihydroergotamine, dihydrostreptomycin, dihydrotachysterol, dihydroxyaluminium aminoacetate, dihydroxyaluminium sodium carbonate, diltiazem hydrochloride, dimenhydrinate, dimercaprol, diphenhydramine hydrochloride, diphenoxylate hydrochloride, diphteria antitoxin, dipyridamole, disopyramide phosphate, disulfiram,

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dobutamine hydrochloride, docusate calcium, docusate sodium, dopamine hydrochloride, doxepin hydrochloride, doxycycline, doxycycline hydrate, doxylamine succinate, dronabinol, droperidol, drotaverine, dydrogesterone, dyphylline, guaifenesin, enalapril maleate, analaprilat, ephedrine, epinephrine, equilin, ergocalciferol, ergoloid mesylates, ergonovine maleate, ergotamine tartrate, erythrityl tetranitrate, erythromycin, estradiol, estriol, estrogen, estrone, estropipate, ethcrynac acid, ethambutol hydrochloride, ethchlorvynol, ethinyl estradiol, ethionamide, ethopropazine hydrochloride, ethotoin, ethynodiol diacetate, etidronate disodium, etoposide, eugenol, famotidine, fenoprofen, ferrous fumarate, ferrous gluconate, ferrous sulfate, flucytosine, fludrocortisone acetate, flunisolide, fluocinolone acetonide, fluocinonide, fluorescein sodium, fluorometolone, fluorouracil, fluoxymesterone, fluphenazine, flurandrenolide, flurazepam, flurbiprofen, folic acid, furazolidone, flunitrazepam, furosemide, gemfibrozil, gentamicin, gentian violet, glutarate, glutethimide, glycopyrrolate, chorionic gonadotropin, gramicidin, griseofulvin, guaifenesin, guanabenz, guanadrel sulfate, halazone, haloperidol, haloprogin, halothane, heparin calcium, hepatitis virus vaccine, hetacillin potassium, hexylresorcinol, histamine phosphate, histidine, homatropine, histoplasmin, hydralazine hydrochloride, hydrochlorothiazide, hydrocodone bitartrate, hydrocortisone, hexobarbital, hydroflumethiazide, hydromorphone hydrochloride, hydroquinone, hydroxocobalamin, hydroxyamphetamine, hydroxychloroquine sulfate, hydroxyprogesterone caproate, hydroxyurea, hydroxine hydrochloride, hydroxine pamoate, hyoscyamine, hyoscyamine sulfate, ibuprofen, ifosfamide, imipramide, imipramide hydrochloride, indapamide, indomethacin, insulin, inulin, iocetamid, iodoquinol, iothexol, iopamidol, ipecac, ipodate calcium, ipodate sodium, isocarboxylic acid, isoetharine hydrochloride, isoflurane, isoniazid, isopropamide iodine, isoproterenol hydrochloride, isosorbide dinitrate, isotretinoin, isoxsuprine hydrochloride, kanamycin sulfate, ketoprofen, ketoconazole, labetalol

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hydrochloride, lanolin, leucine, leucovorin calcium, levamisole hydrochloride, levocarnithine, levodopa, levonorgestrel, levorphanol tartrate, levothyroxine sodium, lidocaine, lincomycin hydrochloride, lindane, liothyronine sodium, liotrix, lisinopril, lithium carbonate, loperamide hydrochloride, loracarbef, lonetil, lorazepam, lovastatin, loxapine, lysine, mafenide acetate, magaldrate, magnesium carbonate, magnesium chloride, magnesium gluconate, magnesium oxide, other magnesium salts, malathion, manganese salts, manganese, maprotiline hydrochloride, mazindol, measles virus vaccine, mebendazole, mebrofenin, mecamlamine hydrochloride, meclizine hydrochloride, meclizine, meclofencic acid, meclofenamate sodium, medroxyprogesterone acetate, mefenamic acid, megestrol acetate, meglumine, melphalan, menadiol sodium diphosphate, menadione, menotropine, meperidine, mephentermine, mephobarbital, meprednisone, meprobamate, mercaptopurine, mesoridazine besylate, mestranol, metaproterenol sulfate, metaraminol bitartrate, methacycline hydrochloride, methadone hydrochloride, methamphetamine hydrochloride, methazolamide, methdilazine, methenamine, methicillin sodium, methimazole, methionine, methocarbamol, methotrexate, methoxsalen, methoxyflurane, methsuximide, methyclothiazide, methylbenzethonium chloride, methyl dopa, methylergonovine maleate, methylphenidate hydrochloride, methylprednisolone, methyltestosterone, methysergide maleate, metoclopramide, metolazone, metoprolol tartrate, metronidazole, metyrapone, metyrosine, mexiletine hydrochloride, mexiletine hydrochloride, miconazole, minocycline hydrochloride, minoxidil, mitomycin, mitotane, molindone hydrochloride, monobenzene, morphine sulfate, mupirocin, medazepam, mefruside, methandrostenolone, methylsulfadiazine, nadolol, nafcillin, nafcillin sodium, nalidixic acid, nalorphine, naloxone, nandrolone decanoate, nandrolone phenpropionate, naproxen, natamycin, neomycin, neomycin sulfate, neostigmine bromide, niacin, nitrofurantoin, nalidixic acid, nifedipine, nitrazepam, nitrofurantoin, nitroglycerine,

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nitromerson, nizatidine, nonoxynol 9, norethindrone, norethindrone acetate, norfloxacin, norgestrel, nortriptyline hydrochloride, noscapine, novobiocin sodium, nystatin, opium, oxacillin sodium, oxamniquine, oxandrolone, oxazepam, oxprenolol hydrochloride, oxtriphylline, oxybenzone, oxybutynin chloride, oxycodone hydrochloride, oxycodone, oxymetazoline hydrochloride, oxymetholone, oxymorphone hydrochloride, oxyphenbutazone, oxytetracycline, padimate, pancreatin, pancrelipase, papain, panthenol, papaverin hydrochloride, parachlorophenol, paramethasone acetate, paregoric, paromomycin sulfate, penicillamine, penicillin, penicillin derivatives, pentaerythritol tetranitrate, pentazocine, pentazocine hydrochloride, pentazocine salts, pentobarbital sodium, perphenazine, pertussis, phenacetamide, phenazopyridine hydrochloride, phendimetrazine tartrate, phenelzine sulfate, phenmetrazine hydrochloride, phenobarbital, phenolphthalein, phenoxybenzamine hydrochloride, phentermine hydrochloride, phenylalanine, phenylbutazone, phenylephrine hydrochloride, phenylpropanolamine hydrochloride, physostigmine, phytonadione, pilocarpine, pimozide, pindolol, piperazine, piroxicam, plicamycin, poliovirus vaccine inactivated, polycarbophil, polymyxin b sulfate, polythiazide, potassium chloride, potassium citrate, potassium gluconate, potassium iodine, potassium sodium tartrate, povidone iodine, pralidoxime chloride, pramoxine hydrochloride, pramezam, prazepam, praziquantel, prazosin hydrochloride, prazosin hydrochloride, prednisolone, prilocaine, primaquine, primidone, probenecid, probucol, procainamide hydrochloride, procaine hydrochloride, procarbazine hydrochloride, prochlorperazine, prochlorperazine maleate, procyclidine hydrochloride, progesterone, proline, promazine, promazine hydrochloride, promazine, promethazine, promethazine hydrochloride, propafenone hydrochloride, propantheline, proparacaine hydrochloride, propoxycaine hydrochloride, propoxyphene hydrochloride, propoxyphene napsylate, propanolol hydrochloride, propylidone, propylthiouracil,

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propylthiouracil, protriptyline hydrochloride, pseudoephedrine hydrochloride, pumice, pyrantel pamoate, pyrazinamide, pyrethrum extract, pyridostigmine bromide, pyridoxine hydrochloride, pyrilamine maleate, pyrimethamine, pyroxylin, pyrvinium pamoate, phenacetin, phenytoin, prednisone, quinidine gluconate, quinidine sulfate, rabies vaccine, racepinephrine, ranitidine, rauwolfia serpentina, resorcinol, ribavirin, riboflavin, rifampin, ritodrine, rubella virus vaccine, saccharin, saccharin sodium, salicylamide, salicylic acid, salsalata, scopolamine, secobarbital sodium, selenius acid, selenium sulfate, sennaserine, simethicone, sodium ascorbate, sodium bicarbonate, sodium fluoride, sodium gluconate, sodium iodide, sodium lactate, sodium nitrite, sodium ditroprusside, sodium salicylate, spironolactone, stannozolol, streptomycin, sucralfate, sulfacetamide, sulfadiazine, reserpine, sulfadioxine, sulfamerazine, sulfamethazine, sulfamethizole, sulfamethoxazole, sulfamethoxydiazine, sulfapyridin, sulfasalazine, sulfaperin, sulfathiazole, sulfisoxazole, sulfinpyrazone, sulindac, suprofen, stilains, tamoxifen citrate, temacepam, terbutaline sulfate, terfenadine, terpin, testolacton, testosterone, tolazamide, tolbutamide, tetracaine, tetracycline, tetrahydrocycline, theophylline, thiabendazole, thiamine hydrochloride, thiamin, thiamylal, thiethylperazine thimerosal, thioguanine, thioridazine hydrochloride, thistrepton, thiotepa, thiothixene, threonine, thyroid, ticarcillin, timolol, tioconazole, tolazamide, tolbutamide, tolmetin, tolnaftate, trazodone hydrochloride, tretinoin, triacetin, triamcinolone, triamterene, triazolam, trichorfon, trichlormethiazide, trientine hydrochloride, trifluoperazine hydrochloride, triflupromazine, trihexyphenidyl hydrochloride, trimeprazine tartrate, trimethadione, trimethobenzamide hydrochloride, trimethoprim, trioxsalen, tripelennamine, triprolidine, trisulfapyrimidine, tropicamide, trypsin, tryptophan, tuberculin, tyloxapol, tyropanoate sodium, tyrosine, tyrothricin, thyrothricin betamethasone, thiotic acid, sotalol, salbutamol, norfenefrine, silymarin,

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dihydroergotamine, buflomedil, etofibrate, indomethacin, urea, valine, valproic acid, vancomycin hydrochloride, vasopressin, verapamil, vidarabine, vinblastine, vincristine, vitamins, warfarin, yellow fever vaccine, zinc acetate, zinc carbonate, zinc chloride, zinc gluconate, beta acetyl digoxin, haloperidol, ISMN, amitriptylin, diclofenac, nifedipine, verapamil, pyritinol, nitrendipin, doxycycline, bromhexine, methylprednisolone, clonidine, fenofibrate, allopurinol, pirenepine, levothyroxin, tamoxifen, methyl digoxin, o-(beta-hydroxymethyl)-rutoside, propicillin, aciclovir mononitrate, paracetamol, naftidrofuryl, pentoxifylline, propafenone, acebutolol, L-thyroxin, tramadol, bromocriptine, loperamide, ketotifen, fenoterol, cadobelisate, propanolol, enalaprilhydrogen maleate, bezafibrate, ISDN, gallopamil, xantinol nicotinate, digitoxin, flunitrazepam, bencyclane, dexapanthenol, pindolol, lorazepam, diltiazem, piracetam, phenoxymethylpenicillin, furosemide, bromazepam, flunarizin, erythromycin, metoclopramide, acemetacin, ranitidin, biperiden, metamizole, doxepin, dipotassium chloroazepate, tetrazepam, estramustine phosphate, terbutaline, captopril, maprotiline, prazosin, atenolol, glibenclamide, cefaclor, etilfrine, cimetidine, theophylline, hydromorphone, ibuprofen, primidone, clobazam, oxaceprol, medroxyprogesterone, flecainid, pyridoxal 5 phosphate glutamate, himechromone, etofylline clofibrate, vincamine, cinnarizine, diazepam, ketoprofen, flupentixol, molsimine, glibornuride, dimetinden, melperone, soquinolol, dihydrocodeine, clomethiazole, clemastine, glisoxepide, kallidinogenase, oxyfedrine, baclofen, carboxymethylcysteine, thioridazine, betahistine, L-tryptophan, murtol, bromelaine, prenylamine, salazosulfapyridine, astemizol, sulpiride, benzerazide, dibenzepine, acetylsalicylic acid, miconazol, nystatin, ketoconazole, sodium picosulfate, coltyramine, gemfibrocil, rifampicin, fluocortolone, mexiletin, amoxicillin, terfenadrin, mucopolysaccharide polysulfate, triazolam, mianserin, tiaprofenic acid, amezinium methylsulfate, mefloquine, probucol, quinidine,

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carbamazepine, L-aspartate, penbutolol, piretanide, aescin, amitriptyline, cyproterone, sodium valproinate, mebeverine, bisacodyl, 5-aminosalicylic acid, dihydralazine, magaldrate, phenprocoumon, amantadine, naproxen, carteolol, famotidine, methyl dopa, auranofine, estriol, nadolol, levomepromazine, doxorubicin, medofenoxate, azathioprine, flutamide, norfloxacin, fendiline, and prajmalium bitartrate.

44-45. (Canceled)

46. (Previously presented) An encapsulated product according to claim 25 wherein said encapsulant is at least one member selected from the group consisting of antioxidants, phytochemicals, hormones, microorganisms, prebiotics, probiotics, enzymes, formulations containing zidovudine, macromolecular polypeptides, aromatic nitro and nitroso compounds and their metabolites useful as anti-viral and anti-tumor agents, HIV protease inhibitors, antibiotics, viruses, steroids, oligopeptides, dipeptides, amino acids, fragrance components, adenosine derivatives, sulfated tannins, monoclonal antibodies, and metal complexes of water-soluble texathyrin.

47. (Withdrawn) An encapsulated product according to claim 25 wherein said encapsulant is at least one member selected from the group consisting of herbicides, pesticides, insecticides, rodenticides, and fungicides.

48-49. (Canceled)

50. (Withdrawn) An encapsulated product according to claim 25 wherein said plasticized matrix material is at least one member selected from the group consisting of

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starches, cyclodextrins, dextrans, monosaccharides, disaccharides, polyvinylpyrrolidone, copolymers of N-vinylpyrrolidone and vinyl acetate, polyvinyl alcohol, cellulose esters, cellulose ethers, and polyethylene glycol.

51. (Canceled)

52. (Previously presented) An encapsulated product comprising:
discrete, solid particles having a substantially uniform shape wherein each particle comprises:

a plasticized matrix material in an amount of at least about 40% by weight, based on the weight of the final encapsulated product,

an encapsulant dispersed throughout the plasticized matrix material, and

at least one component for controlling the rate of release of the encapsulant,

wherein said encapsulant comprises at least one pharmaceutical component, nutraceutical component, nutritional component, fragrance component, or biologically active component,

wherein said matrix material comprises at least one member selected from the group consisting of durum wheat, semolina, wheat flour, wheat gluten, soy protein, hydrocolloids, casein, and gelatin, and at least one plasticizer,

wherein the encapsulant and plasticized matrix material form an at least substantially homogeneous mixture, and

wherein the amount of said encapsulant is from about 1% by weight to about 85% by weight, based upon the weight of the matrix material.

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53. (Withdrawn) An encapsulated product according to claim 52 wherein said plasticized matrix material comprises an at least partially gelatinized starch, which starch is not substantially dextrinized.

54. (Original) An encapsulated product according to claim 52 wherein said encapsulant is coated with a film-forming material prior to dispersion within said plasticized mass.

55. (Original) An encapsulated product according to claim 52 wherein said particles are in the form of a tablet, or a pellet.

56. (Original) An encapsulated product according to claim 52 wherein said particles are spherical.

57. (Original) An encapsulated product according to claim 55 wherein said particles are coated with a film-forming material.

58. (Original) An encapsulated product according to claim 52 wherein said at least one release-rate controlling component is a hydrophobic component.

59. (Original) An encapsulated product according to claim 58 wherein said hydrophobic component is at least one member selected from the group consisting of fats, oils, waxes, fatty acids, emulsifiers, polyolefins, paraffin, polyvinyl acetate and derivatives thereof, and modified starches.

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60. (Withdrawn) An encapsulated product according to claim 52 wherein said at least one release-rate controlling component is a high water binding capacity component.

61. (Original) An encapsulated product according to claim 52 which has a specific density of from about 800 g/liter to about 1500 g/liter.

62. (Previously presented) An encapsulated product according to claim 52 wherein the length-to-diameter of said particles is from about 0.1 to about 10.

63. (Canceled)

64. (Original) An encapsulated product according to claim 52 wherein said particles have a substantially non-expanded, substantially non-cellular structure.

65. (Original) An encapsulated product according to claim 52 wherein said encapsulant is released in an aqueous or gastric juice environment in an amount of no more than from about 10% in about 1 hour to no less than about 90% in about 24 hours.

66. (Original) An encapsulated product according to claim 52 wherein the amount of said at least one component for controlling the rate of release of the encapsulant is up to about 70% by weight, based on the weight of the matrix material.

67. (Original) An encapsulated product according to claim 52 wherein said particles have a diameter of from about 0.5 mm to about 5 mm and a length-to-diameter ratio of about 0.5 to about 2.

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68. (Withdrawn) An encapsulated product according to claim 52 wherein said matrix material comprises a protein.

69. (Original) An encapsulated product according to claim 52 wherein said matrix material comprises at least one member selected from the group consisting of durum wheat, semolina, wheat flour, wheat gluten, and soy protein.

70. (Original) An encapsulated product according to claim 52 wherein said matrix material comprises at least one member selected from the group consisting of durum wheat and semolina.

71. (Withdrawn) An encapsulated product as claimed in claim 52 wherein said encapsulant is at least one member selected from the group consisting of: acepromazine, acetaminophen, acetohexamide, acetohydroxamic acid, acetylcholine, acetyl cysteine, acyclovir, albendazole, alclometasone dipropionate, allopurinol, alprazolam, alprostadil, amcinoide, amantadine, amdinocillin, amikacin, amiloride, aminocaproic acid, aminophylline, aminosalicylate, aminosalicylic acid, amitriptyline hydrochloride, ammonium chloride, amobarbital, amodiaquine hydrochloride, amoxapine, amoxicillin, amphetamine sulfate, amphotericin, ampicillin, amprolium, acetazolamide, acetyldigoxin, acetylsalicylic acid, anileridine, anthraline, antipyrine, antivenin, apomorphine, apraclonidine, ascorbic acid, aspirin, acromycin, atropine, amoxicillin, anipamil, azaperone, azatadine maleate, azathioprine, azithromycin, aztreonam, bacampicillin, bacitracin, baclofen, barium salts, beclomethasone dipropionate, belladonna extract, bendroflumethiazide, benoxinate hydrochloride, benzethonium chloride, benzocaine, benzonatate, benzthiazide, benztropine mesylate, betain, betamethasone, betaxolol,

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betanechol chloride, biotin, biperiden, bisacodyl, bismuth, botulism antitoxin, bromocriptine mesylate, bromodiphenhydramine hydrochloride, bumetanide, bupivacaine, busulfan, butabarbital sodium, butalbital, combinations of butalbital, caffeine and aspirin and codeine, beta-carotene, calcifediol, calcium carbonate, calcium citrate, calcium salts, candididin, captopril, carbachol, carbamazepine, carbenicillin indanyl sodium, carbidopa, carbinoxamine maleate, carboprost tromethamine, carboxymethylcellulose, carisoprodol, casanthranol, cascara, castor oil, cefaclor, cefadroxil, cefamandole nafate, cefazolin, cefixime, cefoperazone, cefotaxime, cefprozil, ceftazidime, cefuroxime axetil, cephalixin, cephradine, chlorambucil, chloramphenicol, chlordiazepoxide, chloroquine phosphate, chlormadinone acetate, chlorothiazide, chlorpheniramine maleate, chloroxylenol, chlorpromazin, chlorpropamide, chlorprothixene, chlorprothixene, chlortetracycline bisulfate, chlortetracycline hydrochloride, chlorthalidone, chlorzoxazone, cholecalciferol, cholera vaccine, chromic chloride, chymotrypsin, cimetidine, cinoxazin, cinoxate, ciprofloxacin, cisplatin, clarithromycin, clavulanate potassium, clemastine fumarate, clidinium bromide, clindamycin hydrochloride, -palmitate and -phosphate, clioquinol, clofazimine, clofibrate, clomiphene citrate, clonazepam, cinnarizine, clonidine hydrochloride, clorsulon, clotrimazole, cloxacillin sodium, cyanocobalamin, cocaine, coccidioidin, cod liver oil, codeine, colchicine, colestipol, corticotropin, cortisone acetate, cyclacillin, cyclizine hydrochloride, cyclobenzaprine hydrochloride, cyclophosphamide, cycloserine, cyclosporine, cyproheptadine hydrochloride, cysteine hydrochloride, danazol, dapsone, dehydrocholic acid, demeclocycline, desipramine, desoximetasone, desoxycorticosterone acetate, dexamethasone, dexchlorpheniramine maleate, Dexpanthenol, dextroamphetamine, dextromethorphan, diazepam, diazoxide, dibucaine, dichlorphenamide, dicloxacillin sodium, dicyclomine, dienestrol, diethylpropion

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hydrochlorid, diethylstilbestrol, diflunisal, digitalis, dicoumarol, digitoxin, digoxin, dihydroergotamine, dihydrostreptomycin, dihydrotachysterol, dihydroxyaluminium aminoacetate, dihydroxyaluminium sodium carbonate, diltiazem hydrochloride, dimenhydrinate, dimercaprol, diphenhydramine hydrochloride, diphenoxylate hydrochloride, diphteria antitoxin, dipyridamole, disopyramide phosphate, disulfiram, dobutamine hydrochloride, docusate calcium, docusate sodium, dopamine hydrochloride, doxepin hydrochloride, doxycycline, doxycycline hydrate, doxylamine succinate, dronabinol, droperidol, drotaverine, dydrogesterone, dyphylline, guaifenesin, enalapril maleate, analaprilat, ephedrine, epinephrine, equilin, ergocalciferol, ergoloid mesylates, ergonovine maleate, ergotamine tartrate, erythrityl tetranitrate, erythromycin, estradiol, estriol, estrogene, estrone, estropipate, ethcryninc acid, ethambutol hydrochlorid, cthchlorvynol, ethinyl estradiol, ethionamide, ethopropazine hydrochloride, ethotoin, ethynodiol diacetate, etidronate disodium, etoposide, eugenol, famotidine, fenoprofen, ferrous fumarate, ferrous gluconate, ferrous sulfate, flucytosine, fludrocortisone acetate, flunisolide, fluocinolone acetonide, fluocinonide, fluorescein sodium, fluorometolone, fluorouracil, fluoxymesterone, fluphenazine, flurandrenolide, flurazepam, flurbiprofen, folic acid, furazolidone, flunitrazepam, furosemide, gemfibrozil, gentamicin, gentian violet, glutarate, glutethimide, glycopyrrolate, chorionic gonadotropin, gramicidin, griseofulvin, guaifenesin, guanabenz, guanadrel sulfate, halazone, haloperidol, haloprogin, halothane, heparin calcium, hepatitis virus vaccine, hetacillin potassium, hexylresorcinol, histamine phosphate, histidine, homatropine, histoplasmin, hydralazine hydrochloride, hydrochlorothiazide, hydrocodone bitartrate, hydrocortisone, hexobarbital, hydroflumethiazide, hydromorphone hydrochloride, hydroquinone, hydroxocobalamin, hydroxyamphetamine, hydroxychloroquine sulfate, hydroxyprogesterone caproate, hydroxyurea, hydroxine hydrochloride, hydroxine pamoate, hyoscyamine, hyoscyamine

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PAGE 19/32 * RCVD AT 11/12/2004 5:07:04 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/6 * DNIS:8729306 * CSID:7033834804 * DURATION (mm:ss):09:48

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molindone hydrochloride, monobenzene, morphine sulfate, mupirocin, medazepam, mefruside, methandrostenolone, methylsulfadiazine, nadolol, nafcillin, nafcillin sodium, nalidixic acid, nalorphine, naloxone, nandrolone decanoate, nandrolone phenpropionate, naproxen, natamycin, neomycin, neomycin sulfate, neostimine bromide, niacin, nitrofurantoin, nalidixic acid, nifedipine, nitrazepam, nitrofurantoin, nitroglycerine, nitromerson, nizatidine, nonoxynol 9, norethindrone, norethindrone acetate, norfloxacin, norgestrel, nortriptyline hydrochloride, noscapine, novobiocin sodium, nystatin, opium, oxacillin sodium, oxamniquine, oxandrolone, oxazepam, oxprenolol hydrochloride, oxtriphylline, oxybenzone, oxybutynin chloride, oxycodone hydrochloride, oxycodone, oxymetazoline hydrochloride, oxymetholone, oxymorphone hydrochloride, oxyphenbutazone, oxytetracycline, padimate, pancreatin, pancrelipase, papain, panthenol, papaverin hydrochloride, parachlorophenol, paramethasone acetate, paregoric, paromomycin sulfate, penicillamine, penicillin, penicillin derivatives, pentaerythritol tetranitrate, pentazocine, pentazocine hydrochloride, pentazocine salts, pentobarbital sodium, perphenazine, pertussis, phenacetamide, phenazopyridine hydrochloride, phendimetrazine tartrate, phenelzine sulfate, phenmetrazine hydrochloride, phenobarbital, phenolphthalein, phenoxybenzamine hydrochloride, phentermine hydrochloride, phenylalanine, phenylbutazone, phenylephrine hydrochloride, phenylpropanolamine hydrochloride, physostigmine, phytonadione, pilocarpine, pimozide, pindolol, piperazine, piroxicam, plicamycin, poliovirus vaccine inactivated, polycarbophil, polymyxin b sulfate, polythiazide, potassium chloride, potassium citrate, potassium gluconate, potassium iodine, potassium sodium tartrate, povidone iodine, pralidoxime chloride, pramoxine hydrochloride, pramezepam, prazepam, praziquantel, prazosin hydrochloride, prazosin hydrochloride, prednisolone, prilocaine, primaquine, primidone, probenecid, probucol, procainamide hydrochloride, procaine hydrochloride,

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procarbazine hydrochloride, prochlorperazine, prochlorperazine maleate, procyclidine hydrochloride, progesterone, proline, promazine, promazine hydrochloride, promazine, promethazine, promethazine hydrochloride, propafenone hydrochloride, propantheline, proparacaine hydrochloride, propoxycaine hydrochloride, propoxyphene hydrochloride, propoxyphene napsylate, propanolol hydrochloride, propylidone, propylthiouracil, propylthiouracil, protriptyline hydrochloride, pseudoephedrine hydrochloride, pumice, pyrantel pamoate, pyrazinamide, pyrethrum extract, pyridostigmine bromide, pyridoxine hydrochloride, pyrilamine maleate, pyrimethamine, pyroxylin, pyrvinium pamoate, phenacetin, phenytoin, prednisone, quinidine gluconate, quinidine sulfate, rabies vaccine, racepinephrine, ranitidine, rauwolfia serpentina, resorcinol, ribavirin, riboflavin, rifampin, ritodrine, rubella virus vaccine, saccharin, saccharin sodium, salicylamide, salicylic acid, salsalata, scopolamine, secobarbital sodium, selenius acid, selenium sulfate, sennaserine, simethicone, sodium ascorbate, sodium bicarbonate, sodium fluoride, sodium gluconate, sodium iodide, sodium lactate, sodium nitrite, sodium ditroprusside, sodium salicylate, spironolactone, stannozolol, streptomycin, sucralfate, sulfacetamide, sulfadiazine, reserpine, sulfadioxine, sulfamerazine, sulfamethazine, sulfamethizole, sulfamethoxazole, sulfamethoxydiazine, sulfapyridin, sulfasalazine, sulfaperin, sulfathiazole, sulfisoxazole, sulfinpyrazone, sulindac, suprofen, stilains, tamoxifen citrate, temacepam, terbutaline sulfate, terfenadine, terpin, testolacton, testosterone, tolazamide, tolbutamide, tetracaine, tetracycline, tetrahydrocycline, theophylline, thiabendazole, thiamine hydrochloride, thiamin, thiamylal, thiethylperazine thimerosal, thioguanine, thioridazine hydrochloride, thistrepton, thiotepa, thiothixene, threonine, thyroid, ticarcillin, timolol, tioconazole, tolazamide, tolbutamide, tolmetin, tolnaftate, trazodone hydrochloride, tretinoin, triacetin, triamcinolone, triamterene, triazolam, trichorfon, trichlormethiazide, trientine hydrochloride, trifluoperazine

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hydrochloride, triflupromazine, trihexyphenidyl hydrochloride, trimeprazine tartrate, trimethadione, trimethobenzamide hydrochloride, trimethoprim, trioxsalen, tripeleminamine, triprolidine, trisulfapyrimidine, tropicamide, trypsin, tryptophan, tuberculin, tyloxapol, tyropanoate sodium, tyrosine, tyrothricin, thyrothricin, betamethasone, thiotic acid, sotalol, salbutamol, norfenefrine, silymarin, dihydroergotamine, buflomedil, etofibrate, indomethacin, urea, valine, valproic acid, vancomycin hydrochloride, vasopressin, verapamil, vidarabine, vinblastine, vincristine, vitamins, warfarin, yellow fever vaccine, zinc acetate, zinc carbonate, zinc chloride, zinc gluconate, beta acetyl digoxin, haloperidol, ISMN, amitriptylin, diclofenac, nifedipine, verapamil, pyritinol, nitrendipin, doxycycline, bromhexine, methylprednisolone, clonidine, fenofibrate, allopurinol, pirenepine, levothyroxin, tamoxifen, methyl digoxin, o-(beta-hydroxymethyl)-rutoside, propicillin, aciclovir mononitrate, paracetamol, naftidrofuryl, pentoxifylline, propafenone, acebutolol, L-thyroxine, tramadol, bromocriptine, loperamide, ketotifen, fenoterol, cadobellinate, propanolol, enalaprilhydrogen maleate, bezafibrate, ISDN, gallopamil, xantinol nicotinate, digitoxin, flunitrazepam, bencyclane, dexapanthenol, pindolol, lorazepam, diltiazem, piracetam, phenoxymethylpenicillin, furosemide, bromazepam, flunarizin, erythromycin, metoclopramide, acemetacin, ranitidine, biperiden, metamizole, doxepin, dipotassium chlorazepate, tetrazepam, estramustine phosphate, terbutaline, captopril, maprotiline, prazosin, atenolol, glibenclamide, cefaclor, etilfrine, cimetidine, theophylline, hydromorphone, ibuprofen, primidone, clobazam, oxaceprol, medroxyprogesterone, flecainide, pyridoxal 5 phosphate glutamate, himechromone, etofylline clofibrate, vincamine, cinnarizine, diazepam, ketoprofen, flupentixol, molsimine, glibornuride, dimetinden, melperone, soquinolol, dihydrocodeine, clomethiazole, clemastine, glisoxepide, kallidinogenase, oxyfedrine, baclofen, carboxymethylcysteine, thioridazine,

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betahistine, L-tryptophan, murtol, bromelaine, prenylamine, salazosulfapyridine, astemizol, sulpiride, benzerazide, dibenzepine, acetylsalicylic acid, miconazol, nystatin, ketoconazole, sodium picosulfate, coltyramine, gemfibrocil, rifampicin, fluocortolone, mexiletin, amoxicillin, terfenadrin, mucopolysaccharide polysulfate, triazolam, mianserin, tiaprofenic acid, amezinium methylsulfate, mefloquine, probucol, quinidine, carbamazepine, L-aspartate, penbutolol, piretanide, aescin, amitriptyline, cyproterone, sodium valproinate, mebeverine, bisacodyl, 5-aminosalicylic acid, dihydralazine, magaldrate, phenprocoumon, amantadine, naproxen, carteolol, famotidine, methyl dopa, auranofine, estriol, nadolol, levomepromazine, doxorubicin, medofenoxate, azathioprine, flutamide, norfloxacin, fendiline, and prajmalium bitartrate.

72. (Canceled)

73. (Original) An encapsulated product according to claim 52 wherein said discrete, solid particles have a diameter of up to about 10 mm.

74. (Canceled)

75. (Previously presented) An encapsulated product according to claim 52 wherein said encapsulant is at least one member selected from the group consisting of antioxidants, phytochemicals, hormones, microorganisms, prebiotics, probiotics, enzymes, formulations containing zidovudine, macromolecular polypeptides, aromatic nitro and nitroso compounds and their metabolites useful as anti-viral and anti-tumor agents, HIV protease inhibitors, antibiotics, viruses, steroids, oligopeptides, dipeptides,

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amino acids, fragrance components, adenosine derivatives, sulfated tannins, monoclonal antibodies, and metal complexes of water-soluble texathyrin.

76. (Original) An encapsulated product according to claim 52 wherein said encapsulant is at least one member selected from the group consisting of herbicides, pesticides, insecticides, rodenticides, and fungicides.

77-78. (Canceled)

79. (Previously presented) An encapsulated product according to claim 52 wherein said plasticized matrix material further comprises at least one member selected from the group consisting of starches, cyclodextrins, dextrans, monosaccharides, disaccharides, polyvinylpyrrolidone, copolymers of N-vinylpyrrolidone and vinyl acetate, polyvinyl alcohol, cellulose esters, cellulose ethers, and polyethylene glycol.

80. (Canceled)

81. (Previously presented) An encapsulated product according to claim 52 wherein:

the amount of the matrix material is from about 60% by weight to about 95% by weight, based upon the weight of the final product, and

the amount of said at least one component used to control the rate of release of the encapsulant is from about 5% by weight to about 50% by weight, based upon the weight of the matrix material.

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82. (Original) An encapsulated product according to claim 52 wherein said encapsulant comprises at least one member selected from the group consisting of enzymes and microorganisms.

83. (Previously presented) An encapsulated product comprising discrete, solid particles having a substantially uniform shape wherein each particle comprises:

an encapsulant dispersed throughout a plasticized matrix material, said matrix material comprising at least one member selected from the group consisting of durum wheat, semolina, vital wheat gluten, soy protein, hydrocolloids, casein, and gelatin, and at least one plasticizer,

wherein said encapsulant comprises at least one pharmaceutical component, nutraceutical component, nutritional component, fragrance component, or biologically active component,

wherein the encapsulant and plasticized matrix material form an at least substantially homogeneous mixture,

wherein the amount of said encapsulant is from about 3% by weight to about 50% by weight, based upon the weight of the matrix material, and

wherein the amount of said matrix material is at least about 40% by weight, based upon the weight of the final encapsulated product.

84. (Original) An encapsulated product according to claim 83 wherein said matrix material comprises semolina or durum wheat.

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85. (Original) An encapsulated product according to claim 83 wherein said encapsulant comprises at least one member selected from the group consisting of enzymes and microorganisms.

86. (Withdrawn) An encapsulated product comprising discrete, solid particles having a substantially uniform shape wherein each particle comprises:
an encapsulant dispersed throughout a plasticized matrix material, and at least one plasticizer, said matrix material comprising a protein,
wherein said encapsulant comprises an enzyme or microorganism.

87. (Withdrawn) An encapsulated product according to claim 86 wherein said protein is derived from a plant source.

88. (Withdrawn) An encapsulated product according to claim 87 wherein said protein comprises gluten.

89. (Withdrawn) An encapsulated product according to Claim 86 comprising discrete, solid particles having a substantially uniform shape and a particle size of less than 1 mm, wherein each particle comprises a dispersion of an encapsulant dispersed within a substantially homogeneous matrix material, said matrix material comprising an uncooked starch.

90. (Previously presented) An encapsulated product according to claim 25, where said encapsulant is omega-3 fatty acids.

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91. (Previously presented) An encapsulated product according to claim 25, comprising about 3% by weight to about 50% by weight of the encapsulant, based upon the weight of the matrix material.

92. (Previously presented) An encapsulated product according to claim 25, comprising about 5% by weight to about 20% by weight of the encapsulant, based upon the weight of the matrix material.

93. (Previously presented) An encapsulated product according to claim 25, wherein the encapsulant is in liquid form.

94. (Withdrawn) An encapsulated product according to claim 25, wherein the encapsulant is in solid form.

95. (Previously presented) An encapsulated product according to claim 52, comprising about 3% by weight to about 50% by weight of the encapsulant, based upon the weight of the matrix material.

96. (Previously presented) An encapsulated product according to claim 52, comprising about 5% by weight to about 20% by weight of the encapsulant, based upon the weight of the matrix material.

97. (Previously presented) An encapsulated product according to claim 83, comprising about 5% by weight to about 20% by weight of the encapsulant, based upon the weight of the matrix material.

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98. (Withdrawn) An encapsulated product according to claim 86, comprising about 3% by weight to about 50% by weight of the encapsulant, based upon the weight of the matrix material.

99. (Withdrawn) An encapsulated product according to claim 86, comprising about 5% by weight to about 20% by weight of the encapsulant, based upon the weight of the matrix material.

100. (Withdrawn) An encapsulated product according to claim 90, comprising about 5% by weight to about 20% by weight of the encapsulant, based upon the weight of the matrix material.

101. (Previously presented) An encapsulated product according to Claim 25 wherein said plasticized mass comprises from about 60% by weight to about 95% by weight of at least one matrix material.

102. (Canceled)

103. (Previously presented) An encapsulated product according to Claim 52 comprising from about 60% by weight to about 95% by weight of the matrix material, based upon the weight of the final encapsulated product.

104. (Canceled)

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105. (Previously presented) An encapsulated product according to Claim 83 comprising from about 60% by weight to about 95% by weight of the matrix material, based upon the weight of the final encapsulated product.

106. (Withdrawn) An encapsulated product according to Claim 86 comprising at least about 40% by weight of the matrix material, based upon the weight of the final encapsulated product.

107. (Withdrawn) An encapsulated product according to Claim 86 comprising from about 60% by weight to about 95% by weight of the matrix material, based upon the weight of the final encapsulated product.

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